



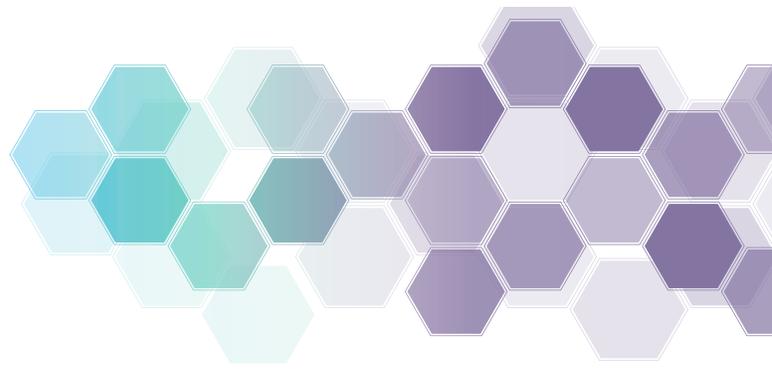
**INDIANA**  
**CANCER FACTS**  
**AND FIGURES**

**A Sourcebook for Planning and Implementing Programs  
for Cancer Prevention and Control**

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**6th Edition**

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# INTRODUCTION LETTER

## DEAR HOOSIERS,

We are pleased to present the sixth iteration of Indiana’s comprehensive report on the burden of cancer in our state. This report has been created to cover current cancer topics, issues, and trends. The document reviews cancer incidence, mortality, and survival statistics as well as cancer symptoms. We include risk factors related to cancer development and information about early detection, treatment, and survivorship. This report provides information to inform decision making, support program goals, and increase education around cancer risks and guidelines.

The Indiana Cancer Consortium (ICC) is proud to share the collaborative and committed efforts of our cancer community. The Indiana Cancer Facts and Figures Sixth Edition is a nearly 100 percent volunteer effort comprised of ICC members and partner organizations. The formation of this document demonstrates the willingness of Hoosiers to combine collective effort that will improve and overcome the cancer burden in Indiana. These efforts benefit all residents of our state and urge us to move forward together as a single cancer control alliance focused on Hoosier’s health and wellbeing.

The ICC gives thanks to the Indiana Department of Health and the American Cancer Society for their organizational partnership in the development of this comprehensive report. We also thank all those who contributed time, resources, and expertise to establish this report as a leading tool and resource for Indiana’s cancer prevention and control efforts. Furthermore, we recognize the value of all those who will now take this report and utilize its findings in addressing the cancer burden in Indiana and health disparities across the state.

Finally, to all Indiana residents, the ICC is committed to convening partners, monitoring the cancer burden in Indiana and developing and implementing evidence-based interventions that will decrease cancer morbidity and mortality and ultimately improve the health of all citizens of Indiana.

## SINCERELY,

**VICTORIA CHAMPION, PHD, RN, FAAN**

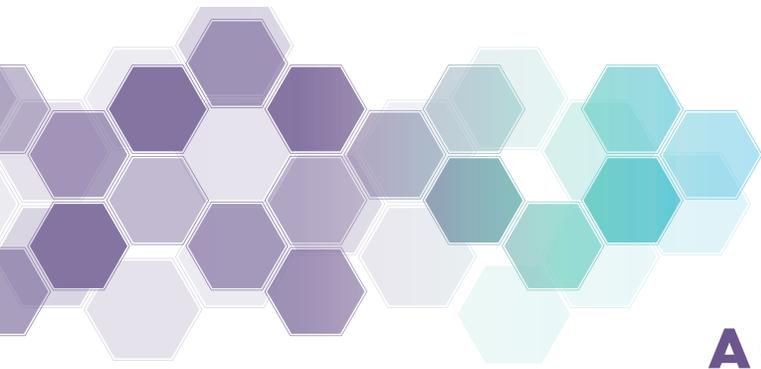
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## TABLE OF CONTENTS

Introduction Letter	<b>1</b>
Acknowledgements	<b>2</b>
Collaborating to Conquer Cancer	<b>3</b>
Understanding Cancer Data	<b>4</b>
Common Questions about Cancer	<b>7</b>
Cancer in Indiana and the US	<b>14</b>
Incidence Rates by County	<b>16</b>
Mortality Rates by County	<b>18</b>
Incidence Rates by County and Cancer Type Heat Maps	<b>20</b>



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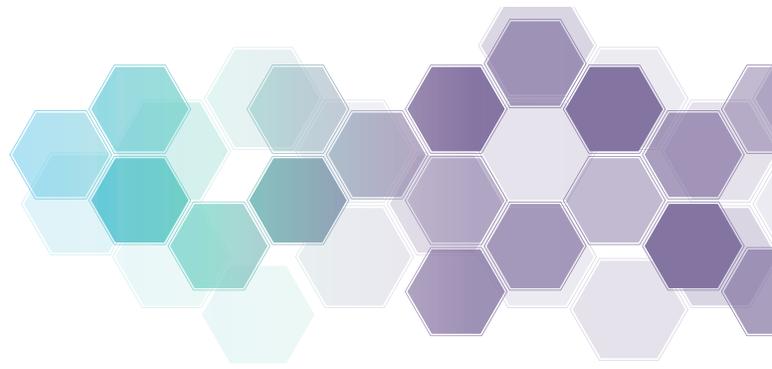
Primary data sources were provided by: American Cancer Society (ACS) and Indiana Department of Health (IDOH)



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To ensure the information shared in this report is consistent with the ACS's findings and recommendations, the authors, with the permission of the ACS, incorporated text and figures from the ACS's Facts and Figures publications. The ACS's figures are acknowledged throughout the report.

This publication was supported in part by grant number NU58DP006319 from the CDC. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the CDC or the Department of Health and Human Services. At the time of publication, this report contains timely and accurate data from its data sources and the most recent evidence-based recommendations from national resources. The breadth of content and conclusions, cancer prevention and control recommended guidelines, and data sources were agreed upon by this publication editors and thus, may not fully represent the opinions, views, and feedback of each contributing subject matter expert or corresponding organization.



# COLLABORATING TO CONQUER CANCER

The Comprehensive Cancer Control National Partnership is a movement of states, tribes, territories, US Pacific Island jurisdictions, and local communities working together to reduce the burden of cancer for all people. In the Hoosier state, the Indiana Cancer Consortium (ICC) serves as that comprehensive cancer control vehicle, responsible for developing, implementing, and evaluating a statewide cancer control plan, which addresses cancer from prevention through end of life.

Collaborating to Conquer Cancer is the underlying philosophy, vision, and model that directs the ICC, as well as our partners across the nation. In Indiana, we are proud to say that Collaborating to Conquer Cancer represents the more-than 300 organizational and individual members of the ICC who work to bring together Indiana's cancer community, identify disease challenges facing both state and local communities, and develop evidence-based solutions that make a difference.

The ICC membership plans, contributes, and takes advantage of a full range of free services including professional trainings, educational publications, mini-grants, and guidance. By listening to our partners, public health and medical experts, and other interested Hoosiers, we continually evolve to better address the gaps in cancer prevention and control across the state. The larger our coalition grows, the bigger impact we have. Individuals and organizations can join for free at [IndianaCancer.org](http://IndianaCancer.org).

## THE PLAN

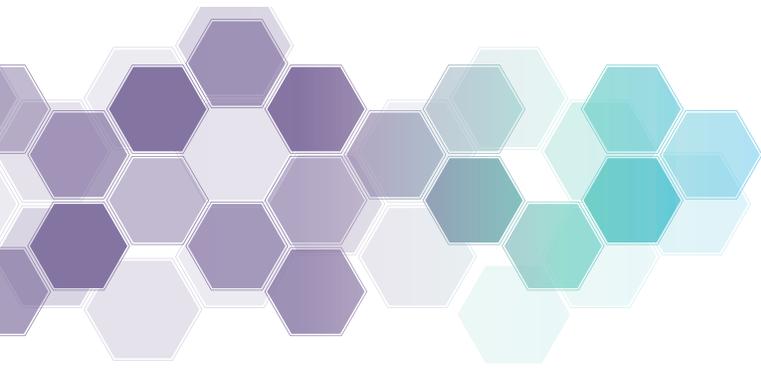
The collaborative process is best understood through the development and implementation of Indiana's current cancer control plan; our roadmap to coordinate cancer control efforts. The Indiana Cancer Control Plan 2021-2022 is comprised of four focus areas: primary prevention, early detection, treatment, and survivorship. Within these four areas, experts in the fields of public health, cancer research, and treatment identified the most important activities that, when implemented, can reduce cancer in Indiana. Day by day, as more partners engage in strategies from this plan, extraordinary accomplishments are made. This is the power of our unique cancer control alliance. Together we are stronger than cancer.

## KEY ACTIVITIES

- Lead the development, implementation, and evaluation of a comprehensive plan to reduce cancer morbidity and mortality in Indiana.
- Recognize excellence in cancer prevention and control.
- Provide guidance on current issues in cancer policy, research, detection, treatment, and survivorship.
- Convene a multi-sectored and diverse membership to discuss cancer-related challenges facing Indiana.
- Strengthen communication, resource sharing, and collaboration to reduce duplication and inefficiency.
- Educate Indiana's public health and health care workforce to implement evidence-based strategies.
- Advocate for strong policy, systems, and environmental changes that decrease cancer risk factors.
- Increase dedicated funding for cancer prevention and control in Indiana.

## INDIANA CANCER FACTS AND FIGURES SIXTH EDITION

The Indiana Cancer Facts and Figures Sixth Edition includes timely cancer information and identifies current cancer trends and their potential impact on Indiana residents. This report significantly helps the ICC measure Indiana's progress toward meeting the goals and objectives outlined in the Indiana Cancer Control Plan 2021-2022. This publication is an exemplary application of collaboration in public health. We hope that the sharing of knowledge, resources, and expertise among the many participating organizations that have contributed to the production of this tool will inspire organizations across the state to tackle the cancer burden together.



# UNDERSTANDING CANCER DATA

Cancer data can sometimes be difficult to interpret. Here is some information about common terms and methods used to better understand cancer data so that it can be effectively used to guide interventions and policy decisions.

It is important to understand that public-facing cancer data regarding cancer incidence and mortality reflect a prior year to the current year. This is due to the amount of time required for data collection, consolidation, and quality control at the state and national levels and assures that the cancer data made available from the Indiana State Cancer Registry (ISCR) reflects the most accurate information available regarding the burden of cancer in Indiana and the nation.

The ISCR exercises the highest standard of data collection, consolidation, and quality control in its practices, which both reflect the national standard used throughout the United States and meet the legislative requirements of state law 410 Indiana Administrative Code 21-1-4.

In order to enhance research endeavors, Indiana releases real-time cancer data for approved research studies.

## INCIDENCE (NEW CASES)

Annual incidence is the number of new cases of cancer diagnosed during a calendar year. Average annual incidence is the number of new cases diagnosed during a specified number of years. Indiana resident incidence data in this report, unless otherwise noted, were obtained from the ISCR. To ensure case completion, according to state law, cancer cases are reported to the ISCR within six months of diagnosis or first encounter. All data must be verified as correct and complete prior to publication, therefore, the most current data available for this report were from 2017. Visit [www.in.gov/isdh/24360.htm](http://www.in.gov/isdh/24360.htm) for data requests and more publications available.

## MORTALITY (DEATHS)

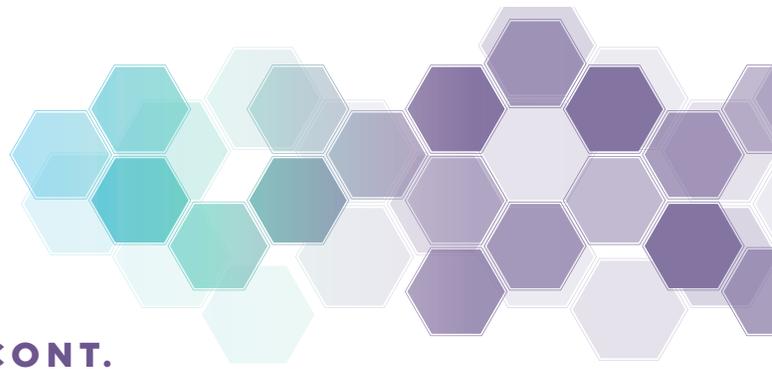
Annual mortality is the number of deaths during a calendar year among those who had a diagnosis of cancer. The death and diagnosis might not occur in the same year. Average annual mortality is the average number of deaths during a specified number of years. Indiana resident mortality data in this report, unless otherwise noted, are from the ISCR, which obtains annual death certificate record information from the Indiana State Department of Health Vital Records Department. Data from 2017 were the most current mortality data available for this report. Visit [www.in.gov/isdh/24360.htm](http://www.in.gov/isdh/24360.htm) for data requests and more publications available.

## CANCER RATES

Cancer rates represent the number of new cases of cancer per 100,000 people (incidence) or the number of cancer deaths per 100,000 people (mortality) during a specific period [see example below]. Typically, incidence rates are calculated based only on the number of invasive cancer cases that occurred during a period and do not include in situ cases. Invasive cancer is cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues. See Page 12 for additional information about in situ cancer.

## EXAMPLE

If a county's lung cancer incidence rate is 40.0 cases per 100,000 people, that means 40 new cases of invasive lung cancer were diagnosed for every 100,000 people. If the county's population is 25,000, then an incidence rate of 40.0 means 10 new cases of invasive lung cancer were diagnosed in that county during that year. Rates provide a useful way to compare cancer burden irrespective of the actual population size. Rates can be used to compare demographic groups (males have higher lung cancer rates than females), race/ethnic groups (African-American males have higher prostate cancer rates than white males), or geographic areas (Indiana has higher lung cancer incidence rates than California). Population data to calculate the incidence rates were obtained from [www.seer.cancer.gov/popdata](http://www.seer.cancer.gov/popdata)



## UNDERSTANDING CANCER DATA CONT.

### AGE-ADJUSTED RATES

Older age groups generally have higher cancer rates than younger age groups. For example, in Indiana, more than 80 percent of new lung cancer cases occur in those aged 60 and older. As a result, if one county's lung cancer incidence rate is higher than another, the first question asked is whether the county with a higher rate has an older population.

To address this issue, all mortality and incidence rates presented in this report, unless otherwise noted, have been age-adjusted. This removes the impact of different age distributions between populations and allows for direct comparisons of those populations. Additionally, age-adjustment allows for a comparison of rates within a single population over time.

On the other hand, age-specific rates are incidence or mortality rates for specific age groups.

### STATISTICAL SIGNIFICANCE

When comparing two cancer incidence or mortality rates, either between two counties or between men and women, it is often of interest to determine if the difference in rates is statistically significant. This means that the difference between two rates is unlikely to be the result of chance alone. Statistically significant differences in cancer rates between one county compared to another, or in one group compared to another, can help identify potentially modifiable risk factors for cancer such as health equity disparities, geographic or cultural factors, or challenges in access to care. The term "statistical significance" refers only to the process and results of the statistical calculations and in no way implies any judgment about the importance or significance of cancer.

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## OTHER COMMON TERMS USED AND GROUPS REFERENCED IN THIS REPORT

**ADULTS:** People aged 18 years and older

**AFRICAN AMERICAN:** For the means of this report, African American is encompassing of all Black individuals diagnosed or died of cancer in the United States and Indiana regardless of country of birth.

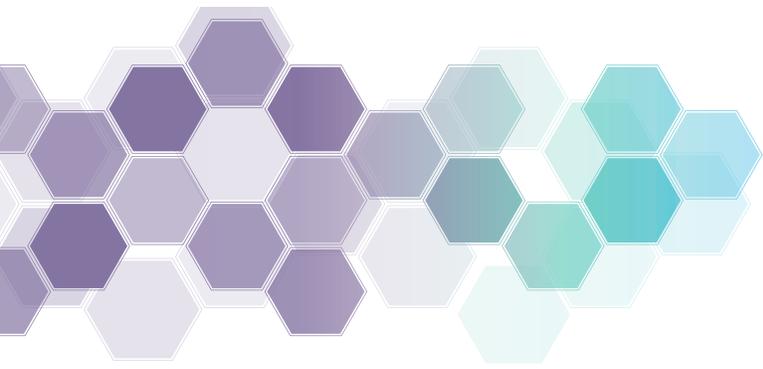
**AGE-SPECIFIC RATE:** The total number of new cases or deaths among residents in a specific age group divided by the population of that age group then multiplied by 100,000.

**AMERICAN CANCER SOCIETY (ACS):** A nationwide, community-based non-governmental health organization dedicated to eliminating cancer. Headquartered in Atlanta, Georgia, the ACS supports six geographic regions with 350 offices nationwide, and has both a national and global community presence. Additional information is available at [cancer.org](https://www.cancer.org).

**BURDEN:** The number of new cases or deaths from cancer or overall impact of cancer in a community.

**CARCINOGEN:** Any chemical, physical, or viral agent that is known to cause cancer.

**CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC):** A federal agency that conducts and supports health promotion, prevention, and preparedness activities in the United States (US), with the goal of improving overall public health. Additional information is available at [cdc.gov](https://www.cdc.gov).



## OTHER COMMON TERMS USED AND GROUPS REFERENCED IN THIS REPORT CONT.

**FIVE-YEAR SURVIVAL:** The percentage of people who are alive five years after their cancer is diagnosed. While statistically valid, these percentages are based on historical data and might not reflect current advances in treatment. Therefore, five-year survival rates should not be used to predict an individual's survival with cancer.

**LIFETIME RISK OF DEVELOPING OR DYING FROM CANCER:** The chance a person has, over the course of his or her lifetime (from birth to death), of being diagnosed with or dying from cancer.

**MALIGNANT TUMOR:** Cancerous tumor that has the capability of invading neighboring tissues and may be capable of spreading to distant tissues.

**METASTASIS:** Cancer that spreads to a different part of the body from where it started.

**MORBIDITY:** The rate of disease in a population during a specific period of time.

**MORTALITY:** The rate of death in a population during a specific period of time.

**NATIONAL CENTER FOR HEALTH STATISTICS (NCHS):** Housed at the CDC, the NCHS is the nation's principal health statistics agency. The organization compiles statistical information to guide actions and policies to improve public health. Additional information is available at [cdc.gov/nchs](https://cdc.gov/nchs).

**PREVALENCE:** The proportion of people with a certain disease or condition at a specific point in time.

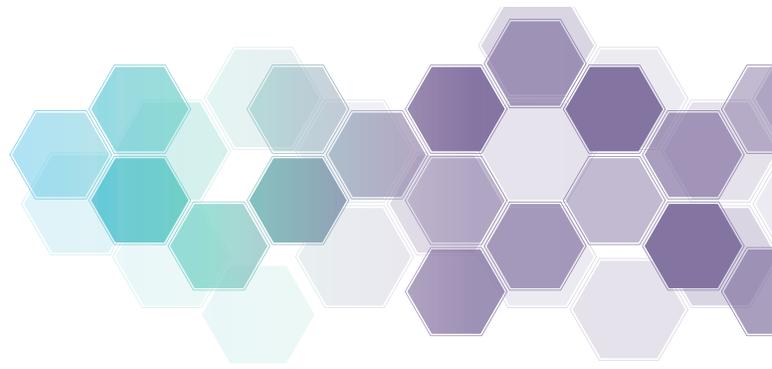
**RISK FACTOR:** Anything that increases a person's probability of getting a disease. Risk factors can be lifestyle-related, environmental, or genetic (inherited).

**SURVEILLANCE, EPIDEMIOLOGY, AND END RESULTS (SEER) PROGRAM:** Contained within the National Cancer Institute, SEER works to provide information on cancer statistics in an effort to reduce the burden of cancer among the US population. Additional information is available at [seer.cancer.gov](https://seer.cancer.gov).

**STAGING:** The process of finding out whether cancer has spread and if so, how far. There is more than one system for staging (See Pages 12-13 for additional information).

References are provided at the end of every section in this report, in order to provide readers with access to additional information.





# COMMON QUESTIONS ABOUT CANCER

## WHAT IS CANCER?

Cancer is a group of diseases characterized by the uncontrolled growth and spread of abnormal cells. The cancer cells form tumors that destroy normal tissue. If cancer cells break away from a tumor, they can travel through the bloodstream or the lymphatic system to other areas of the body, where they might form new tumors (metastases). If this growth is not controlled, cancer might be fatal.

## ARE ALL GROWTHS AND TUMORS CANCEROUS?

Not all irregular growths of abnormal cells lead to cancer. A tumor can be either benign (non-cancerous) or malignant (cancerous). Benign tumors do not metastasize and, with very rare exceptions, are not life threatening. Benign tumors usually grow slowly, remain localized, and do not destroy surrounding normal tissue.

## WHAT CAUSES CANCER?

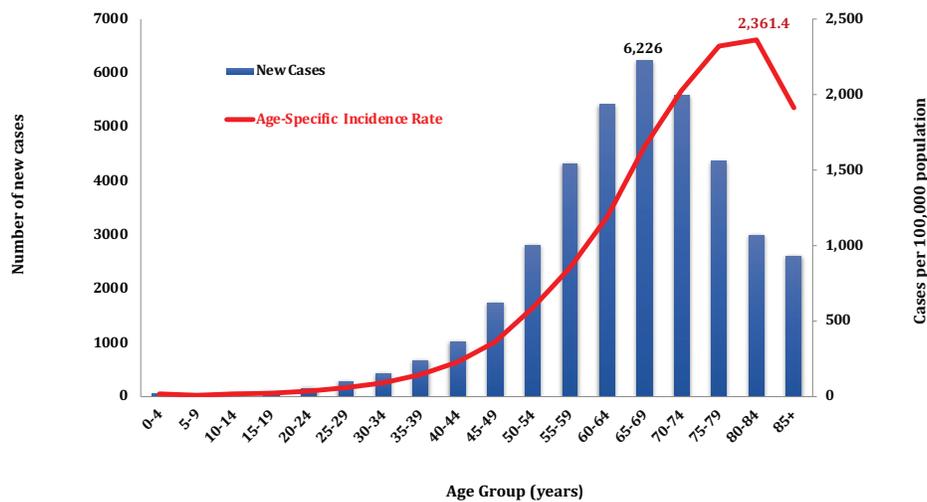
All cancers develop because of damage to or mutation of genes that control cell growth and division. These genetic changes can be caused by exposure to external factors, such as tobacco, poor diet, alcohol, chemicals, sunlight, radiation, or infectious organisms. They can also be caused by internal factors, such as inherited mutations, hormones, or immune conditions. Only about 5 to 10 percent of all cancers are the result of inherited gene mutations.<sup>1</sup>

External and internal factors often act together or in sequence to initiate or promote cancer development. Many years often pass between exposures or mutations and detectable cancer. Due to these factors, it is often difficult to directly identify causes of specific cancer cases.

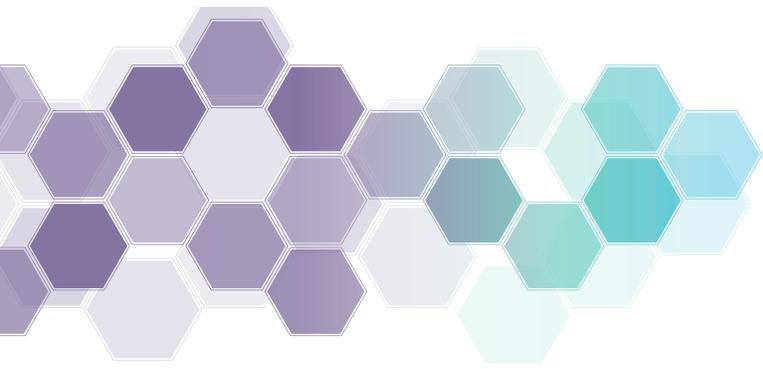
## WHO GETS CANCER?

Anyone can get cancer at any age; however, middle and older aged people are most likely to develop cancer. In Indiana, during 2017, 74.2 percent of all cancer cases occurred among people aged 55-84 (25 percent among people aged 55-64, 30.3 percent among people aged 65-74, and 18.9 percent among people aged 75-84) [Figure 1].

**FIGURE 1. NUMBER AND RATE OF NEW CANCER DIAGNOSES AMONG RESIDENTS—INDIANA, 2017**



Individuals who have been exposed to certain external and internal risk factors have an increased risk of developing cancer. As an external example, male smokers are approximately 25 times more likely to develop lung cancer than people who have never smoked.<sup>2</sup> Smoking accounts for approximately 80 percent of all lung cancer deaths. Lung cancer is the leading cause of cancer death in both men and women.<sup>2</sup> As an internal example, 55 to 72 percent of women who inherit the BRCA-1 gene mutation will develop breast cancer by 70-80 years of age.<sup>12</sup>



## COMMON QUESTIONS ABOUT CANCER CONT.

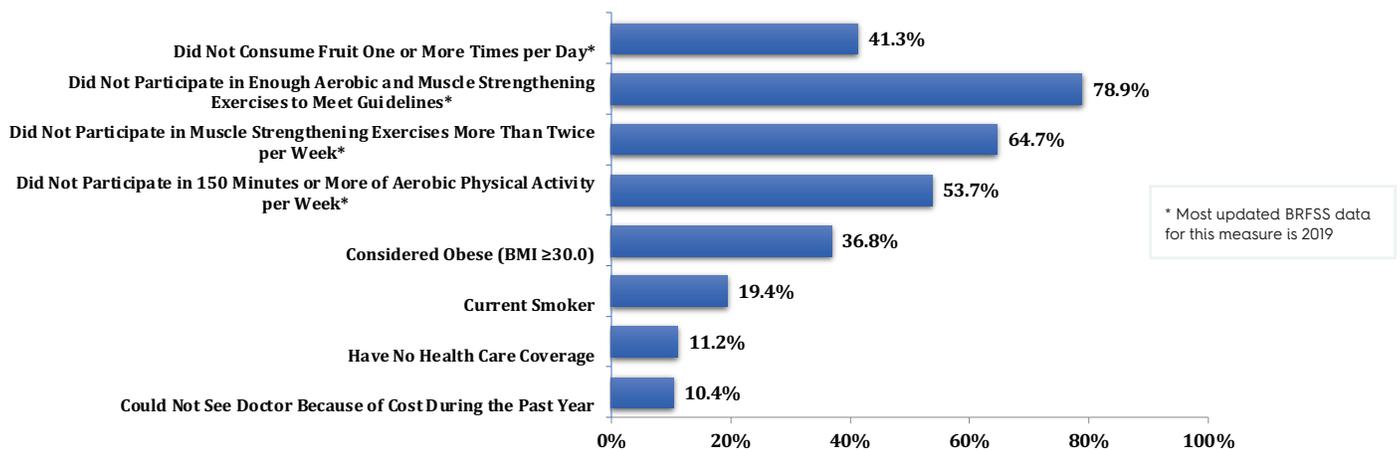
### CAN CANCER BE PREVENTED?

Many cancers can be prevented by modifying external risk factors and making lifestyle changes, such as eliminating tobacco use, improving dietary habits, increasing physical activity, maintaining a healthy weight, taking advantage of cancer preventative vaccinations, and avoiding excessive sun. Additionally, many cancers can be prevented or identified at an early stage if people receive regular medical care and obtain early detection cancer screenings. Screening recommendations specific to each section are included throughout this publication and are up-to-date as of the time of print.

Figure 2 describes the burden of some lifestyle and external factors among Indiana adults and Figure 3 describes cancer screening rates among Indiana adults.

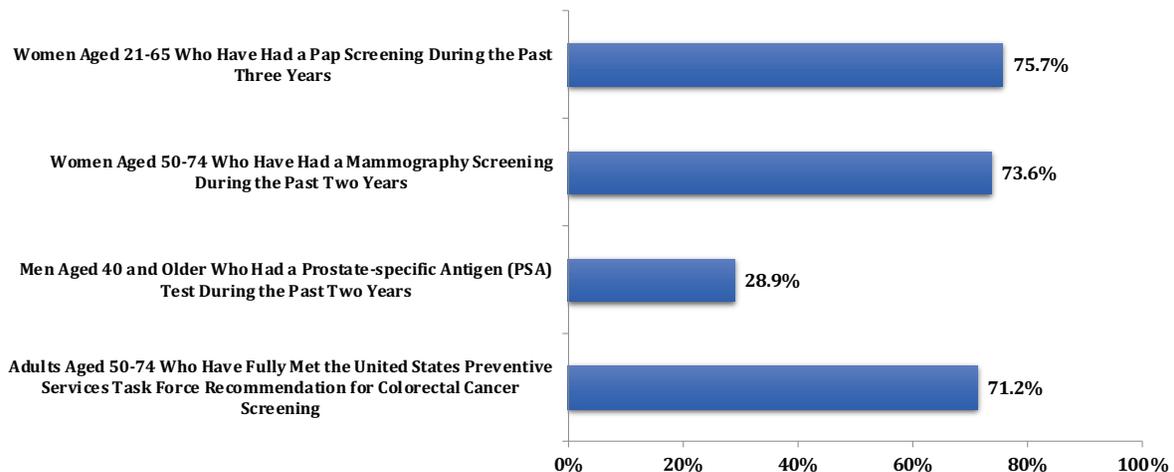
**FIGURE 2. CANCER RISK FACTORS BEHAVIORS AND ACCESS TO MEDICAL CARE AMONG ADULTS\*—INDIANA, 2019-2020**

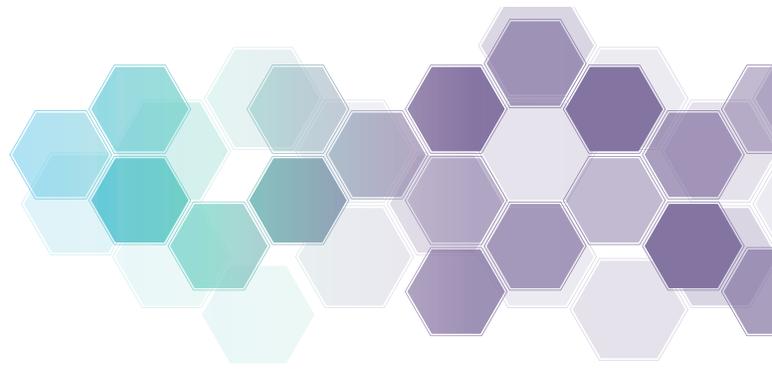
Source: Indiana Behavioral Risk Factor Surveillance System, 2021.



**FIGURE 3. CANCER SCREENING RATES—INDIANA, 2020**

Source: Indiana Behavioral Risk Factor Surveillance System, 2021.



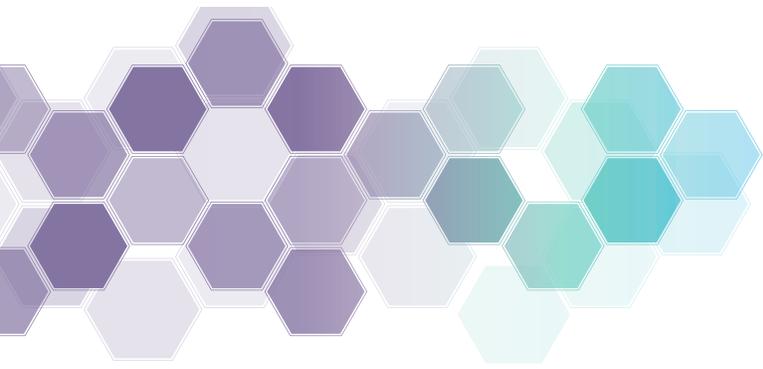


## COMMON QUESTIONS ABOUT CANCER CONT.

### WHAT ARE THE RISK FACTORS?

- **TOBACCO:** The ACS estimates that 30 percent of all cancer deaths are caused by tobacco use.<sup>2</sup> Each of those deaths could have been prevented by not using tobacco products. During 2019, 19.2 percent of Indiana adults were current smokers.<sup>4</sup> Men and women who smoke cigarettes are about 25 times more likely to develop lung cancer than people who never smoke.<sup>2</sup>
- **BODY WEIGHT, DIET, AND PHYSICAL ACTIVITY:** According to the CDC, overweight and obesity are associated with 13 types of cancer, which make up approximately 40 percent of all diagnosed cancers.<sup>5</sup> During 2019, 35.3 percent of Indiana adults were considered obese.<sup>4</sup> Additionally, during 2019, 53.7 percent of Indiana adults did not get the recommended 150 minutes of exercise per week (recommendations available at <https://www.cdc.gov/physicalactivity/basics/index.htm>).<sup>4</sup> During 2019, 41.3 percent did not consume fruit one or more times per day and 21.1 percent did not consume vegetables one or more times per day.<sup>4</sup> Diets low in animal fat and high in fruits and vegetables could help prevent certain cancers.
- **INFECTION WITH HUMAN PAPILLOMAVIRUS (HPV) AND OTHER INFECTIOUS DISEASES:** HPV is the single greatest risk factor for cervical cancer.<sup>6</sup> The CDC estimates that HPV vaccination could prevent more than 90 percent of cancers caused by HPV—estimated to be 33,000 cases every year—from ever developing.<sup>13</sup> In all, an estimated 13 percent of cancers worldwide are related to infectious exposures, such as the hepatitis B virus (HBV), HPV, human immunodeficiency virus (HIV), Helicobacter pylori bacteria, and others.<sup>15</sup> Many of these infections can be prevented through behavioral changes or the use of vaccines or antibiotics.<sup>7</sup>
- **SUN EXPOSURE:** Excessive exposure to ultraviolet radiation from the sun or other sources, such as tanning beds, is the greatest risk factor for developing skin cancer. The US Department of Health and Human Services and the International Agency of Research on Cancer have found that exposure to sun lamps or sunbeds is classified as a known human carcinogen, the same classification as tobacco.<sup>8</sup>
- **HEALTH CARE COVERAGE:** Uninsured and underinsured patients are substantially more likely to be diagnosed with cancer at a later stage, when treatment can be more extensive and costly. According to the US Census Bureau, approximately 26.1 million Americans, 8.0 percent, were uninsured in 2019.<sup>9</sup> For Indiana, in 2019, 13.6 percent of Indiana residents were uninsured.<sup>4</sup>
- **SCREENING:** Early diagnosis through regular screening examinations saves lives by identifying cancers when they are most curable and treatment is more successful. Cancers that can be detected by screening include breast, cervix, colon, lung, oral cavity, prostate, rectum, skin, and testicular cancers.





## COMMON QUESTIONS ABOUT CANCER CONT.

### HOW IS CANCER STAGED?

A cancer's stage is based on the primary tumor size and location in the body and whether it has spread from the site of origin to other areas of the body. There are two main staging systems used to classify tumors. In a clinical setting, the TNM staging is most often used. In a population health setting, the summary staging system is used.

The TNM staging system assesses tumors in three ways: extent of the primary tumor (T), absence or presence of regional lymph node involvement (N), and absence or presence of distant metastases (M). Once the T, N, and M are determined, a stage is assigned. Stages are given numbers (I, II, III, IV) and represent a scale; stage I is the earliest possible diagnosis and stage IV is advanced.

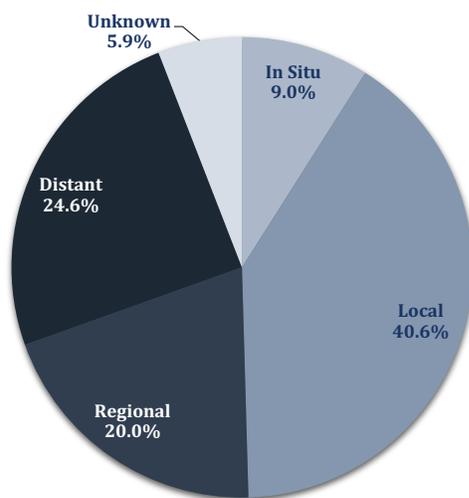
Summary staging is useful for descriptive and statistical analyses of cancer data, is used for population health reporting, and thus emphasized throughout this report. An in situ tumor is a tumor at the earliest possible stage, when cells have not invaded surrounding tissue. This stage can only be diagnosed by microscopic examination. A localized tumor is any tumor that has not spread beyond the primary organ. A regional or distant tumor is one that has spread to other parts of the body (this is also referred to as a tumor that has metastasized), either through the blood or lymphatic systems. With an unstaged/unknown tumor, there is insufficient information available to determine the stage of the disease.

### WHAT IS THE IMPACT OF STAGE AT DIAGNOSIS ON SURVIVAL?

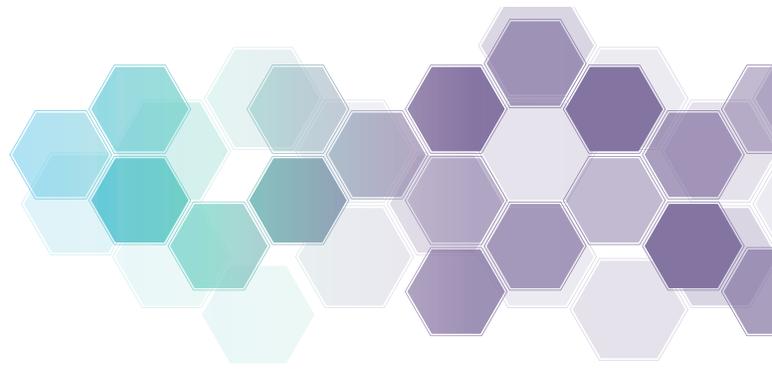
Staging is essential in determining the choice of therapy and assessing prognosis. It is a strong predictor of survival; generally, the earlier the stage, the better the prognosis. Locally and nationally, about half of newly diagnosed cases are either in situ or localized [Figure 4].

**FIGURE 4. PERCENT OF CANCER CASES DIAGNOSED DURING EACH STAGE\*—INDIANA, 2013-2017**

\*Includes all reportable in situ and invasive cancers | Source: Indiana State Cancer Registry



During 2013-2017, of the Indiana residents who received an in situ of invasive cancer diagnosis, 96,651 (49.6%) were diagnosed in the in situ or local stage, 86,908 (44.6%) were diagnosed in the regional or distant stage, and 11,496 (5.9%) had unknown staging.



## COMMON QUESTIONS ABOUT CANCER CONT.

### HOW IS CANCER TREATED?

- **Surgery.** Mostly used for localized tumors, this removes the tumor by removing the cancerous mass.
- **Chemotherapy.** Used with the intention of curing or inducing remission in cancers in early stages, this uses either intravenous or oral drugs to destroy cancer cells.
- **Hormone therapy.** This may be given to block the body’s natural hormones and to slow or stop the growth of certain cancers.
- **Immunotherapy or biologic therapies.** These therapies are used to stimulate and strengthen a person’s own immune system to destroy the cancer cells.
- **Radiation or radiotherapy.** Used with the intention of curing some cancers or to relieve symptoms associated with the disease, this uses high-energy rays to destroy or slow the growth of cancer cells.

### CAN CANCER BE CURED?

Many cancers can be cured, if detected and promptly treated. For most types of cancer, if a person’s cancer has been in remission (all signs and symptoms of the disease are absent) for five years, the person is considered cured. However, the length of remission at which a person is considered cured differs by cancer type. Certain skin cancers, such as a basal cell carcinoma, are considered cured as soon as the lesion is removed.

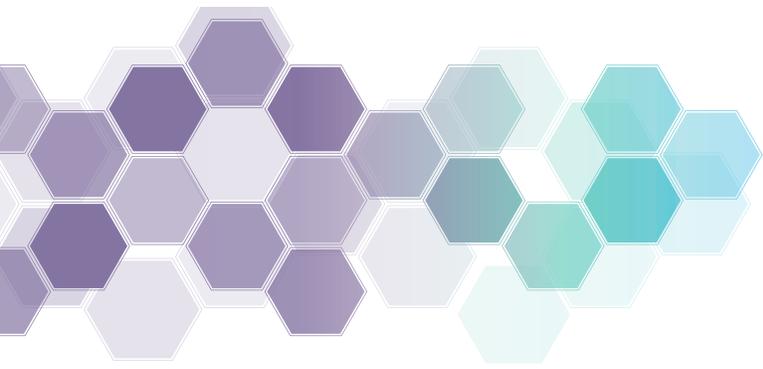
### WHAT ARE THE MOST COMMON CANCERS?

Indiana mirrors the nation when it comes to the top four most common cancers. Excluding skin cancers, breast and prostate are the most prevalent cancers among females and males, respectively. Lung, including bronchus, and colon cancers are the next most common cancers among both sexes [Table 1]. Annually, lung cancer is responsible for the most cancer-related deaths among both sexes [Table 1].

**TABLE 1. LEADING SITES OF NEW CANCER CASES AND DEATHS AMONG INDIANA RESIDENTS BY SEX, 2017**

Source: Indiana State Cancer Registry

Number (%) of New Cases					
Males		Females			
<b>Prostate</b>	4,261	21.3%	<b>Breast</b>	6,287	31.4%
<b>Lung and Bronchus</b>	3,047	15.2%	<b>Lung and Bronchus</b>	2,727	13.6%
<b>Colon and Rectum</b>	1,930	9.6%	<b>Corpus and Uterus, NOS</b>	2,056	10.3%
<b>Melanoma of the Skin</b>	1,680	8.4%	<b>Colon and Rectum</b>	1,695	8.5%
<b>Urinary Bladder</b>	1,319	6.6%	<b>Melanoma of the Skin</b>	1,188	5.9%
<b>Kidney and Renal Pelvis</b>	949	4.7%	<b>Non-Hodgkin Lymphoma</b>	656	3.3%
<b>Non-Hodgkin Lymphoma</b>	824	4.1%	<b>Thyroid</b>	609	3.0%
<b>Oral Cavity and Pharynx</b>	798	4.0%	<b>Kidney and Renal Pelvis</b>	576	2.9%
<b>Leukemia</b>	636	3.2%	<b>Pancreas</b>	538	2.7%
<b>Pancreas</b>	615	3.1%	<b>Leukemia</b>	432	2.2%
<b>Other</b>	3,985	19.9%	<b>Other</b>	3,290	16.4%
<b>All Sites</b>	20,044		<b>All Sites</b>	20,054	



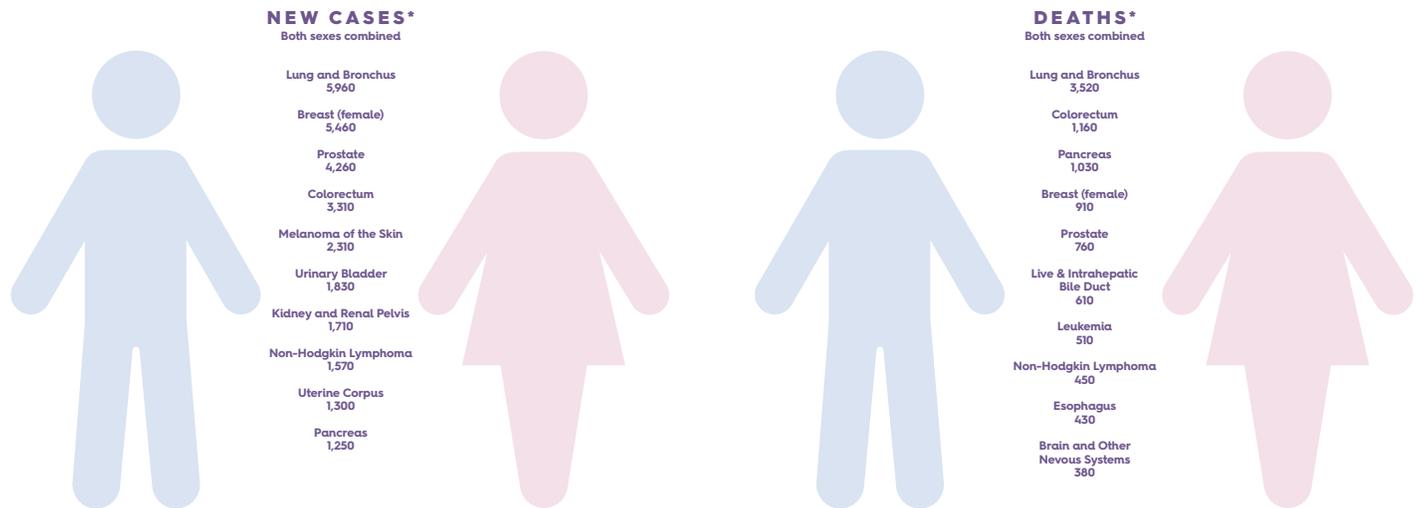
## COMMON QUESTIONS ABOUT CANCER CONT.

### Number (%) of Deaths

Males		Females			
Lung and Bronchus	2,508	28.7%	Lung and Bronchus	2,083	26.9%
Colon and Rectum	849	9.7%	Breast	1,171	15.1%
Prostate	729	8.3%	Colon and Rectum	690	8.9%
Pancreas	565	6.5%	Pancreas	532	6.9%
Esophagus	382	4.4%	Ovary	369	4.8%
Leukemia	369	4.2%	Leukemia	283	3.6%
Urinary Bladder	356	4.1%	Corpus and Uterus, NOS	269	3.5%
Non-Hodgkin Lymphoma	335	3.8%	Non-Hodgkin Lymphoma	212	2.7%
Liver and Intrahepatic Bile Duct	297	3.4%	Brain and Other Nervous System	169	2.2%
Kidney and Renal Pelvis	258	3.0%	Liver and Intrahepatic Bile Duct	168	2.2%
Other	2,087	23.9%	Other	1,809	23.3%
All Sites	8,735		All Sites	7,755	

FIGURE 5. LEADING SITES OF NEW CANCER CASES AND DEATHS AMONG INDIANA RESIDENTS, 2021

Source: American Cancer Society, 2021



### HOW MANY PEOPLE ALIVE TODAY WILL GET CANCER?

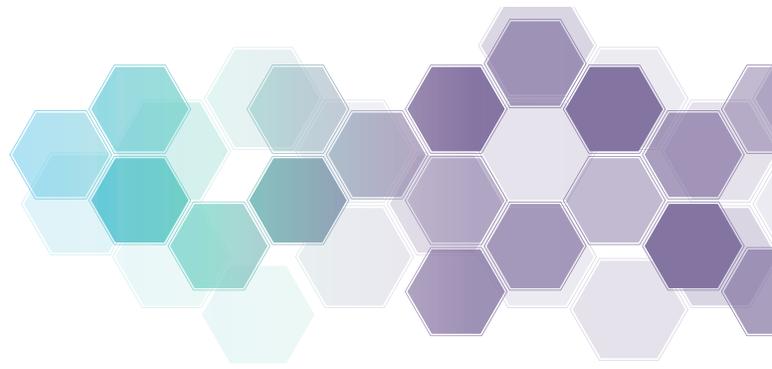
About 2.4 million Hoosiers, or approximately two in five people now living in Indiana, will eventually develop cancer. Nationally, 4.1 in 10 men will develop cancer in their lifetime; while 3.9 in 10 women will develop cancer in their lifetime.<sup>2</sup>

### HOW MANY PEOPLE ALIVE TODAY HAVE EVER HAD CANCER?

More than 16.9 million Americans with a history of cancer were alive on January 1, 2019.<sup>2</sup> Some of these individuals were cancer-free, while others still had evidence of cancer and might have been undergoing treatment.

### HOW MANY NEW CASES OF CANCER ARE EXPECTED TO OCCUR THIS YEAR?

The ACS estimates that approximately 39,010 Indiana residents will be diagnosed with cancer in 2021, amounting to more than four new cases of cancer diagnosed every hour of every day.<sup>2</sup> Nationally, an estimated 1.9 million new cancer cases are expected in 2021.<sup>2</sup> These estimates did not include cases of non-melanoma skin cancer and carcinoma in situ (except for in situ urinary bladder cancer cases).



## COMMON QUESTIONS ABOUT CANCER CONT.

### HOW MANY PEOPLE ARE EXPECTED TO DIE FROM CANCER THIS YEAR?

Approximately 13,460 Indiana residents are expected to die of cancer in 2021, which translates to approximately 37 people every day.<sup>2</sup> Cancer is the second leading cause of death in Indiana following heart disease. Among children aged five to 14 years, cancer is the second leading cause of death following accidental injury.<sup>2</sup>

### HOW MANY PEOPLE TODAY SURVIVE CANCER?

According to the CDC, the five-year survival rate for cancer from 2011 to 2017 in the United States was 66.2 percent.<sup>17</sup> Factors such as early stage of disease at diagnosis can greatly improve the probability of survival after five years.

### WHAT ARE THE COSTS OF CANCER?

During 2014, \$1.83 billion was the estimated direct cost of treating Indiana residents with cancer. The estimated indirect costs totaled \$11.12 billion for the same year.<sup>11</sup> The Milken Institute estimated that, should current trends continue, Indiana residents would spend \$2.76 billion on direct costs for cancer care in 2023.<sup>11</sup>

### HOW DOES CANCER INCIDENCE AND MORTALITY IN INDIANA COMPARE WITH THE REST OF THE US?

Indiana's age-adjusted cancer incidence rate during 2013 to 2017 was 459.3 per 100,000 people. This was higher than, but very similar to, the national rate of 448.7 per 100,000 people (2.3 percent difference) [Table 2; Figure 6].

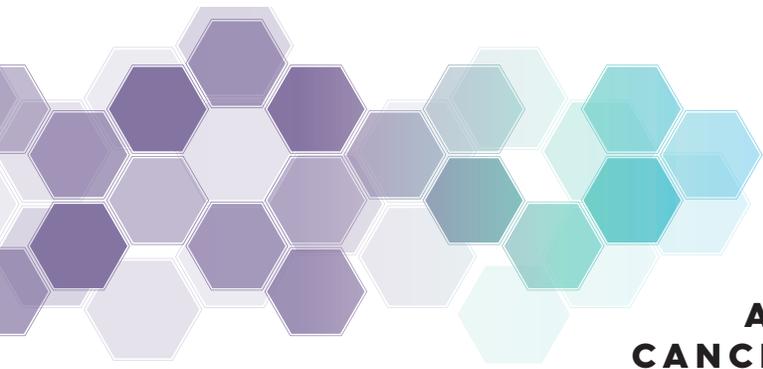
However, during the same period, Indiana's age-adjusted cancer mortality rate was 10.4 percent higher than the national rate (175.6 versus 158.3 deaths per 100,000 people). This included being 12.1 percent higher among Indiana males (213.9 versus 189.5 deaths per 100,000 males) and 8.7 percent higher among Indiana females (148.1 versus 135.7 deaths per 100,000 females) [Table 2].

Lung cancer had the largest differences between the Indiana and US incidence and mortality rates, as the incidence rate among Indiana residents was almost 17.6 percent higher and the mortality rate was 19.5 percent higher [Figure 6, Figure 7]. This increase in risk is mostly attributable to Indiana having a high prevalence of smokers compared to the rest of the US. In 2018, Indiana had the 4th highest adult smoking rate in the country at 21.1 percent.<sup>14</sup>

**TABLE 2. CANCER INCIDENCE AND MORTALITY (DEATH) RATE COMPARISONS BETWEEN INDIANA AND THE US, BY SEX AND RACE, 2013-2017\***

Source: United States Cancer Statistics: 2013 - 2017 Mortality, WONDER Online Database. United States Department of Health and Human Services, Centers for Disease Control and Prevention; 2021. Accessed at <http://wonder.cdc.gov/CancerMort-v2014.html>

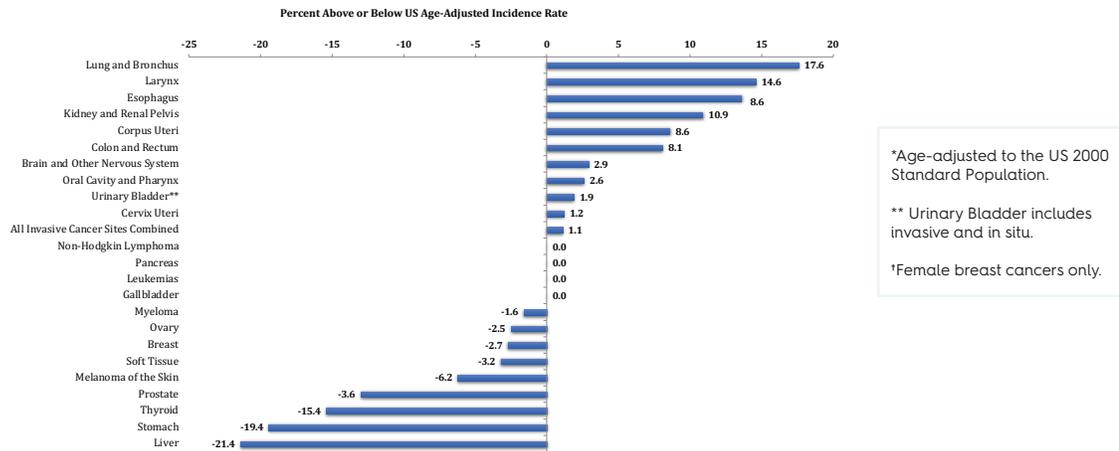
	Incidence rate per 100,000 people (2013-2017)			Mortality rate per 100,000 people (2013-2017)		
	Indiana	United States	Difference (%)	Indiana	United States	Difference (%)
<b>Total</b>	459.3	448.7	2.3%	175.6	158.3	10.4%
<b>Males</b>	503.6	488.5	3.0%	213.9	189.5	12.1%
<b>Females</b>	430.7	422.2	2.0%	148.1	135.7	8.7%
<b>Whites</b>	461.1	451	2.2%	175.7	159	10.0%
<b>African-Americans</b>	453.7	447.6	1.4%	195	181.7	7.1%



## ADDITIONAL INFORMATION ABOUT CANCER IN INDIANA AND THE US CONT.

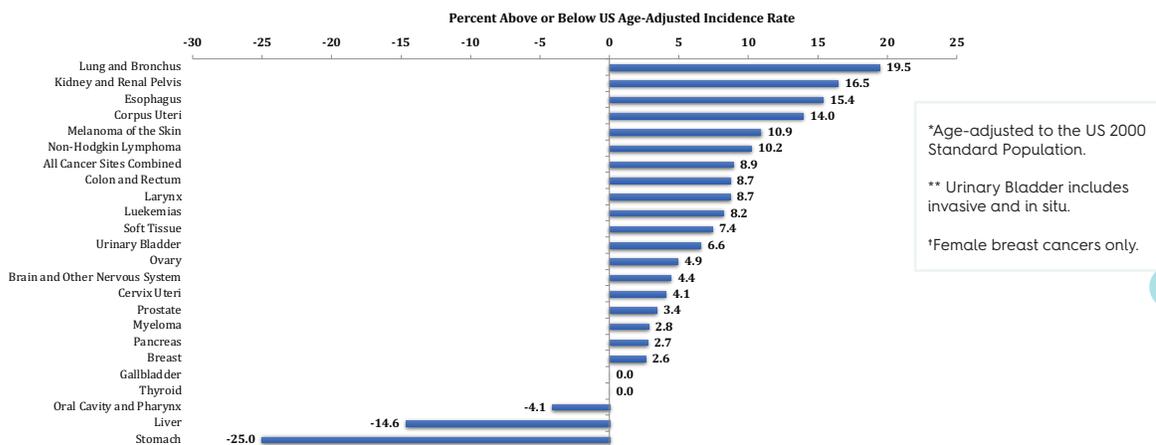
**FIGURE 6. HOW DO INDIANA CANCER INCIDENCE RATES COMPARE TO US RATES?\* (1999–2017)**

Source: Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2019. Accessed at <https://wonder.cdc.gov/cancer-v2017.HTML> on July 1, 2021.



**FIGURE 7. HOW DO INDIANA CANCER MORTALITY (DEATH) RATES COMPARE TO US RATES?\* (1999–2017)**

Source: Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2019. Accessed at <https://wonder.cdc.gov/cancer-v2017.HTML> on July 1, 2021.

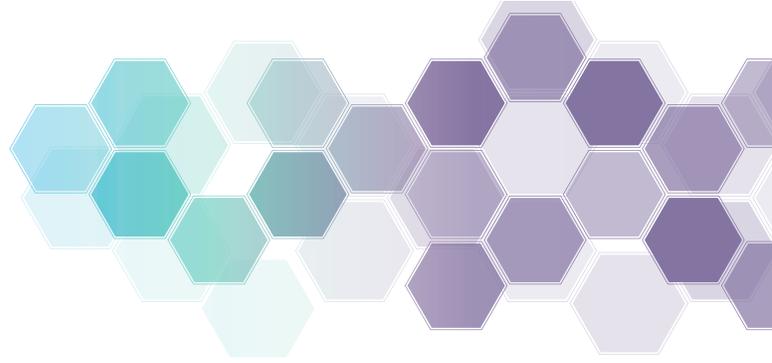


### IS THE CANCER BURDEN IN THE US AND INDIANA LESSENING?

The burden of specific cancer types among US residents has changed over the years [Figures 8 and 9]. For example, with the gradual decrease in smoking rates among Americans over the past several decades, lung cancer mortality rates have begun to decrease, especially among US males.

In Indiana, from 2008 to 2017, the age-adjusted incidence rates for all cancers combined decreased 2.6 percent from 474.6 to 462.9 cases per 100,000 people. Likewise, the age-adjusted mortality rates decreased 10 percent from 230.3 to 208.5 deaths per 100,000 people. However, trends varied among the different cancer types.<sup>16</sup>

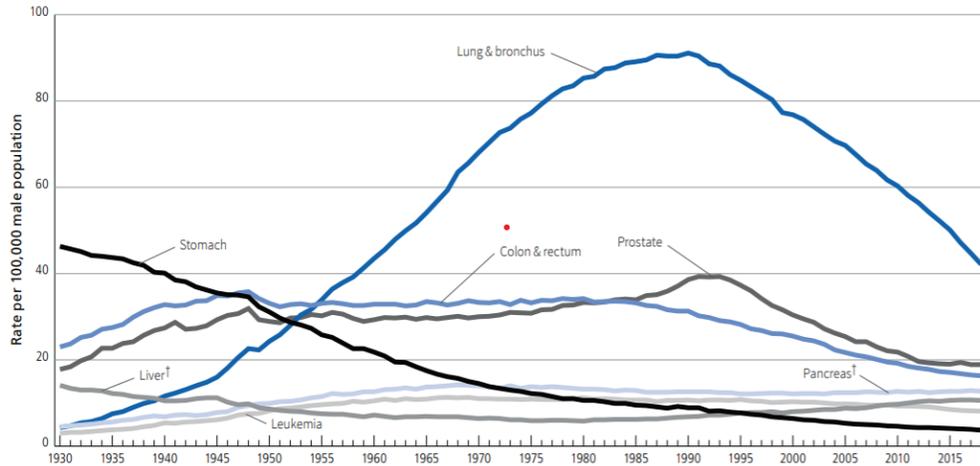
These statistics indicate that progress continues to be made in the early detection and treatment of certain cancers, and that the incidence and mortality of some cancers is declining. However, a significant cancer burden still exists among Indiana residents that requires continued and increasingly targeted cancer control efforts.



## ADDITIONAL INFORMATION ABOUT CANCER CONT.

**FIGURE 8. CANCER MORTALITY (DEATH) RATES AMONG MALES BY SITE\*—US, 1930–2018**

Source: US Mortality Volumes 1930,1959, US Mortality Data 1960 to 2018, National Center for Health Statistics, Centers for Disease Control and Prevention. ©2018, American Cancer Society, Inc., Surveillance Research



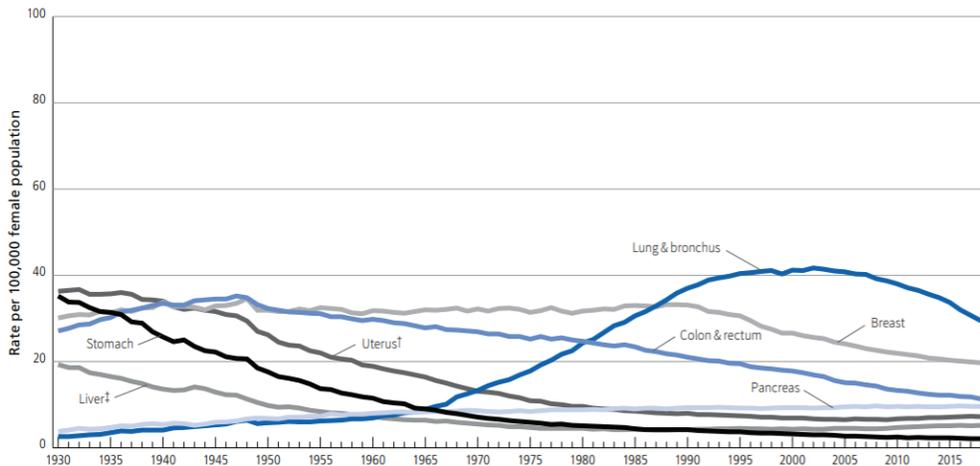
\*Age-adjusted to the US 2000 Standard Population.

†Mortality rates for pancreatic and liver cancers are increasing.

Note: Due to changes in ICD coding, numerator information has changed over time. Rates for cancers of the liver, lung and bronchus, colon and rectum, and uterus are affected by these coding changes.

**FIGURE 9. CANCER MORTALITY (DEATH) RATES AMONG FEMALES BY SITE\*—US, 1930–2018**

Source: US Mortality Volumes 1930,1959, US Mortality Data 1960 to 2018, National Center for Health Statistics, Centers for Disease Control and Prevention. ©2018, American Cancer Society, Inc., Surveillance Research



\*Age-adjusted to the US 2000 Standard Population.

†Uterus refers to uterine cervix and uterine corpus combined.

†The mortality rate for liver cancer is increasing.

Note: Due to changes in ICD coding, numerator information has changed over time. Rates for cancers of the liver, lung and bronchus, colon and rectum, and uterus are affected by these coding changes.

## HOW DOES INDIANA TRACK CHANGES IN CANCER RISK AND RISK BEHAVIOR DATA?

The ISCR was established in 1985 to compile information on cancer cases and other related data necessary to conduct epidemiological studies of cancer and develop appropriate preventive and control programs. The data in this registry allow for the evaluation of cancer prevention efforts and the measurement of progress toward reaching the state goal of reducing cancer incidence and mortality among Indiana residents.

- Additionally, several data sources are used to describe the burden of risk factors (e.g., obesity) and cancer screening rates among Indiana residents. The Behavioral Risk Factor Surveillance System (BRFSS) provides yearly data that can be used to generate Indiana-specific estimates for a large number of cancer risk and preventative factors. These findings can be tracked over time and compared to other states to evaluate how Indiana is progressing in those areas. Additional local, state, and national data resources can be found in the Indiana Community Health Information Resource Guide ([tinyurl.com/SaviData](http://tinyurl.com/SaviData)).

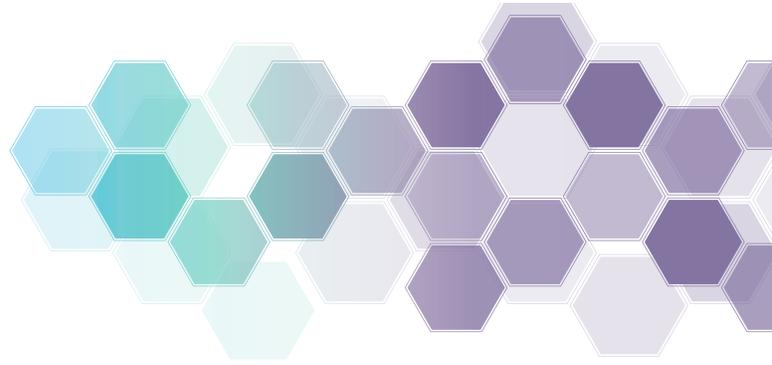
# RATES BY COUNTY

**TABLE 3. INDIANA CANCER INCIDENCE RATES BY COUNTY, 2013-2017\*\***

Source: Indiana State Cancer Registry

County	All Cancers		Prostate (Male-only disease)		Female Breast		Lung		Colon and Rectum	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Indiana	176,218	463.4	18,148	87.3	24,577	130.8	28,069	72.3	16,115	42.6
Adams	818	425.6 ↓	80	80.2	105	113.4	121	62.6	91	43.9
Allen	8,705	435.9 ↓	935	87.5	1,257	127.2	1,316	65.6 ↓	758	38.1 ↓
Bartholomew	2,196	465.4	206	79.5	317	136.4	364	74.0	170	35.8 ↓
Benton	265	478.9	34	109.8	35	129.5	41	71.3	29	50.2
Blackford	442	496.0	41	81.6	52	125.9	84	89.2	52	57.1 ↑
Boone	1,545	459.6	191	101.8 ↑	235	137.5	188	56.8 ↓	124	36.8
Brown	526	445.3	59	78.1	54	94.0 ↓	90	73.6	48	41.9
Carroll	629	472.9	68	87.9	69	101.5 ↓	105	74.3	69	52.4
Cass	1,038	428.4 ↓	95	71.4	134	118.0	207	82.0 ↑	104	43.4
Clark	3,286	491.5 ↑	156	43.8 ↓	467	136.1	619	91.4 ↑	18	47.9 ↑
Clay	826	494.4	75	78.6	106	130.5	155	89.5 ↑	75	45.8
Clinton	875	446.2	100	96.0	97	98.9 ↓	147	71.0	85	43.4
Crawford	361	503.2	22	53.5 ↓	43	122.8	155	89.5	36	50.4
Daviess	828	444.2	89	87.1	106	118.7	121	61.8	88	46.6
Dearborn	1,657	526.6 ↑	180	96.8	222	143.2	268	83.3 ↑	125	39.3
Decatur	759	472.5	85	95.6	82	101.4 ↓	109	64.6	78	47.4
DeKalb	1,158	456.1	106	73.6	141	111.4	201	76.1	130	52.2 ↑
Delaware	3,314	458.0	335	88.4	355	105.8 ↓	563	79.2 ↓	265	37.9
Dubois	1,160	444.1	151	102.7	164	134.3	133	48.0 ↓	115	42.9
Elkhart	4,926	450.5 ↓	414	69.0 ↓	672	125.1	748	67.1 ↓	456	41.4
Fayette	685	429.4 ↓	56	63.4 ↓	84	110.4	129	74.9	74	46.0
Floyd	2,190	486.6 ↑	127	51.1 ↓	337	146.4 ↑	363	80.3 ↑	193	43.1
Fountain	578	511.5 ↑	52	80.5	88	158.4	98	80.7	63	55.8 ↑
Franklin	656	450.7	68	77.2	92	131.9	114	74.1	61	42.3
Fulton	589	435.7	39	50.5 ↓	84	133.1	110	75.0	59	44.9
Gibson	953	448.6	112	95.2	135	134.9	159	72.2	104	48.2
Grant	2,299	515.3 ↑	231	92.6	268	123.4	412	88.7 ↑	251	57.3 ↑
Greene	1,002	454.8	90	70.2 ↓	147	136.4	177	77.9	99	44.5
Hamilton	6,598	444.6 ↓	895	112.2 ↑	1,219	157.6 ↑	609	44.3 ↓	463	31.7 ↓
Hancock	2,155	499.3 ↑	210	86.6	325	151.8 ↑	302	68.8	177	42.5
Harrison	1,163	474.9	65	45.0 ↓	158	128.5	233	92.9 ↑	120	48.5
Hendricks	3,937	471.2	493	109.0 ↑	643	151.6 ↑	540	66.1 ↓	304	37.7 ↓
Henry	1,520	468.7	146	79.9	194	130.0	257	75.9	133	40.8
Howard	2,602	483.1 ↑	269	90.2	378	141.7	434	75.3	235	43.9
Huntington	996	438.1	83	66.2 ↓	163	148.0	151	63.8	108	47.8
Jackson	1,265	486.6	108	77.8	150	122.2	222	81.0	133	50.6
Jasper	944	463.5	97	81.2	119	121.9	154	72.7	90	45.7
Jay	640	490.6	52	72.9	69	109.7	100	74.5	79	62.0 ↑
Jefferson	1,074	527.1 ↑	107	92.7	130	126.7	209	99.8 ↑	122	58.7 ↑
Jennings	817	496.8	64	68.5	95	110.9	149	88.1 ↑	77	47.7
Johnson	3,981	484.5 ↑	397	89.2	549	133.9	587	70.8	320	38.9
Knox	1,206	514.7 ↑	105	85.0	181	152.8 ↑	189	76.7	134	57.2 ↑
Kosciusko	2,071	449.2	215	81.2	315	143.3	339	70.1	212	46.7
LaGrange	727	381.3 ↓	72	68.3 ↓	110	124.1	100	50.8 ↓	67	35.3
Lake	14,029	480.3 ↑	1,625	104.2 ↑	1,936	131.4	2,051	68.9 ↓	1,409	48.1 ↑
LaPorte	3,330	477.7	359	92.3	393	119.7	556	76.6	313	44.6
Lawrence	1,460	466.1	163	91.0	167	111.2 ↓	258	77.4	137	43.4

\*Rates are per 100,000 people and age-adjusted to the 2000 US Standard Population  
 \*\*↑ ↓ symbols denote whether the county's rate is significantly different than the Indiana rate.  
 "x" Rate and comparison to state rate is suppressed if fewer than 20 cases occurred because rate is considered unstable.



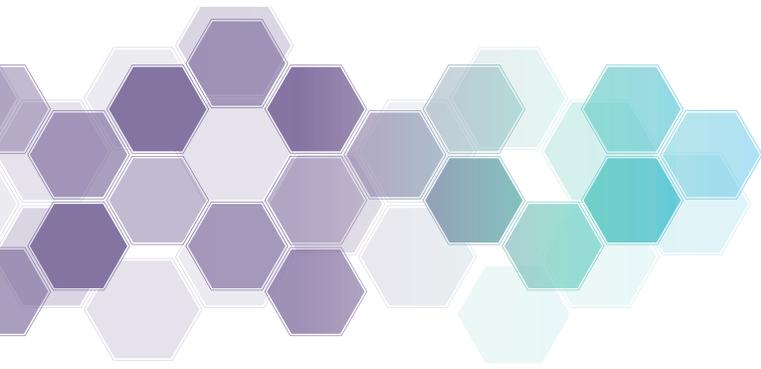
## RATES BY COUNTY CONT.

**TABLE 3. INDIANA CANCER INCIDENCE RATES BY COUNTY, 2013-2017\*\* (CONTINUED)**

Source: Indiana State Cancer Registry

County	All Cancers		Prostate (Male-only disease)		Female Breast		Lung		Colon and Rectum	
	Count	Rate*	Count	Rate*	Count	Rate*	Count	Rate*	Count	Rate*
Madison	3,951	480.4 ↑	372	81.6	526	133.3	684	80.7 ↑	336	40.7
Marion	22,371	473.1 ↑	2,397	99.0 ↑	3,302	135.8 ↓	3,587	77.4 ↑	1,819	39.0 ↓
Marshall	1,171	404.9 ↓	118	71.7 ↓	137	97.4 ↓	212	69.7	102	34.7 ↓
Martin	301	424.3	30	71.6	27	76.1 ↓	52	68.6	31	45.5
Miami	930	411.4 ↓	82	63.9 ↓	102	94.3 ↓	161	69.0	98	43.4
Monroe	2,975	444.4 ↓	402	113.8 ↑	414	126.7	389	57.8 ↓	250	38.3
Montgomery	1,014	414.6 ↓	88	66.5 ↓	156	135.7	187	72.0	89	36.4
Morgan	2,309	540.9 ↑	270	109.1 ↑	311	151.8 ↑	367	84.5 ↑	195	47.1
Newton	420	440.3	44	76.4	52	111.9	77	72.4	36	39.2
Noble	1,167	431.6 ↓	86	56.8 ↓	174	130.2	216	78.1	107	38.1
Ohio	181	394.2 ↓	22	84.2	13	X	40	83.4	24	47.6
Orange	611	463.4	50	67.7	89	144.1	89	63.3	59	45.3
Owen	697	481.2	81	97.2	83	117.9	129	85.0	62	43.2
Parke	453	406.7 ↓	41	59.8 ↓	59	107.8	89	74.9	40	35.0
Perry	522	411.7 ↓	51	69.0	62	104.7	100	78.4	52	43.2
Pike	396	456.3	42	83.9	44	106.5	72	76.3	34	36.0
Porter	4,566	461.2	529	95.7 ↑	660	132.6	681	68.2	433	43.7
Posey	749	452.0	79	82.0	98	123.5	112	63.7	83	48.6
Pulaski	408	478.1	42	81.3	55	132.6	68	76.9	42	48.9
Putnam	1,166	516.3 ↑	117	90.1	140	129.8	227	98.3 ↑	128	57.6 ↑
Randolph	793	461.0	97	98.9	55	132.6	139	75.9	75	42.7
Ripley	786	446.6	96	94.3	91	102.7 ↓	118	63.9	74	42.6
Rush	543	495.7	45	74.1	87	163.9 ↑	95	80.5	48	43.6
St. Joseph	6,696	434.3 ↓	646	77.3 ↓	998	131.2	1,036	66.2 ↓	589	38.0 ↓
Scott	751	512.6 ↑	44	55.2 ↓	72	100.9 ↓	148	95.4 ↑	85	59.3 ↑
Shelby	1,484	533.4 ↑	138	87.9	197	145.8	257	90.3 ↑	131	46.3
Spencer	591	423.1 ↓	70	83.1	88	133.0	103	70.8	48	33.8
Starke	785	515.1 ↑	81	91.4	998	131.2	167	104.0 ↑	90	56.7 ↑
Steuben	927	402.0 ↓	109	78.8	99	93.2 ↓	163	66.6	100	43.0
Sullivan	608	461.7	43	57.1 ↓	69	111.3	123	89.3 ↑	75	57.0 ↑
Switzerland	280	422.0	19	X	31	99.4	51	72.4	28	42.5
Tippecanoe	3,382	418.6 ↓	331	76.6 ↓	493	123.0	485	60.6 ↓	360	45.6
Tipton	515	497.7	64	103.6	78	156.6	87	79.4	35	31.3
Union	218	455.9	26	94.2	27	104.2	28	56.5	15	X
Vanderburgh	5,206	473.4	540	91.1	724	133.3	879	77.7 ↑	453	41.1
Vermillion	518	482.8	50	81.0	55	104.4	109	96.0 ↑	45	41.6
Vigo	2,976	482.6 ↑	259	79.3	406	134.5	519	82.4 ↑	299	48.1 ↑
Wabash	997	455.8	113	92.6	123	122.2	137	59.8 ↓	117	52.0
Warren	267	449.7	39	115.6	41	140.5	41	65.8	28	46.7
Warrick	1,681	444.9	209	95.6	281	148.5 ↑	260	65.5	124	34.0 ↓
Washington	809	469.3	50	48.6 ↓	101	119.5	163	90.1 ↑	70	41.5
Wayne	2,002	453.1	200	83.5	257	118.3	363	78.1	206	46.9
Wells	769	426.1 ↓	76	77.6	102	113.3	121	65.8	85	46.6
White	764	461.1	67	67.8 ↓	100	129.0	119	66.3	73	46.2
Whitley	910	427.9 ↓	71	56.5 ↓	140	132.5	165	74.8	89	44.8

\*Rates are per 100,000 people and age-adjusted to the 2000 US Standard Population  
 \*\*↑ ↓ symbols denote whether the county's rate is significantly different than the Indiana rate.  
 "X" Rate and comparison to state rate is suppressed if fewer than 20 cases occurred because rate is considered unstable.



## RATES BY COUNTY CONT.

**TABLE 4. INDIANA CANCER MORTALITY (DEATH) RATES BY COUNTY, 2013-2017\*\***

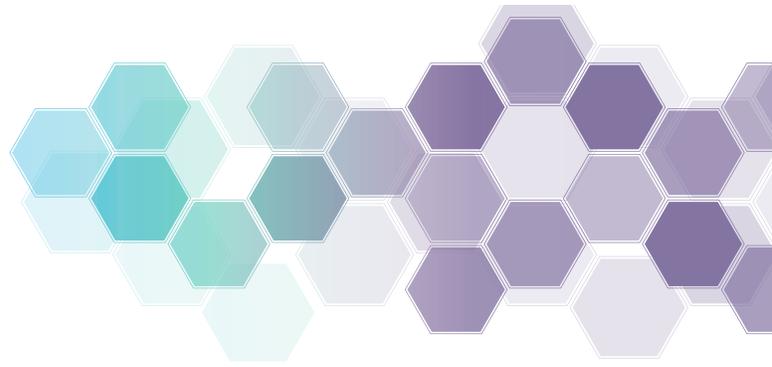
Source: Indiana State Cancer Registry

County	All Cancers		Prostate (Male-only disease)		Female Breast		Lung		Colon and Rectum						
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate					
Indiana	59,098	153.8	2,931	14.6	4,405	24.2	19,230	49.4	4,542	11.9					
Adams	306	156.5	X	X	22	25.2	88	44.8	23	11.4					
Allen	2,973	148.4	180	17.1	†	268	28.2	†	856	42.1	198	10.1	↓		
Bartholomew	677	142.0	37	14.6	62	27.6	225	46.4	37	7.8	↓				
Benton	90	161.9	0	0.0	X	X	31	55.6	X	X					
Blackford	163	184.4	†	X	X	X	X	64	72.0	†	X	X			
Boone	452	136.5	↓	X	X	36	22.2	149	44.9	33	10.1				
Brown	195	166.8	X	X	X	X	59	46.9	X	X					
Carroll	199	150.2	X	X	X	X	67	49.6	X	X					
Cass	405	165.7	X	X	26	23.1	141	57.4	38	16.8	†				
Clark	1,032	152.1	36	11.2	72	20.8	413	61.2	†	82	11.4				
Clay	285	167.5	X	X	21	27.2	102	59.2	X	X					
Clinton	344	174.5	†	X	X	20	21.6	108	52.2	26	13.1				
Crawford	116	157.8	X	X	X	X	53	69.2	†	X	X				
Daviess	268	141.1	X	X	X	X	88	44.5	36	19.3	†				
Dearborn	509	161.8	X	X	26	16.1	↓	178	56.0	26	8.4				
Decatur	249	152.1	X	X	X	X	81	48.9	X	X					
DeKalb	399	156.2	X	X	30	26.1	123	48.0	24	9.7					
Delaware	1,108	160.9	58	15.9	67	20.8	365	52.5	76	10.6					
Dubois	353	133.1	↓	X	X	30	24.6	92	33.4	↓	37	13.1			
Elkhart	1,631	147.4	74	13.1	112	21.7	482	42.7	↓	115	10.5				
Fayette	256	153.4	X	X	X	X	89	51.7	X	X					
Floyd	662	145.2	27	11.1	43	20.7	220	47.7	50	11.3					
Fountain	196	166.6	X	X	X	X	58	49.0	X	X					
Franklin	224	151.9	X	X	X	X	65	42.2	X	X					
Fulton	244	173.9	X	X	X	X	88	61.0	23	18.1					
Gibson	317	148.1	21	18.0	21	22.9	107	48.2	32	14.9					
Grant	819	183.3	†	40	16.5	58	29.0	286	63.4	†	59	13.4			
Greene	360	160.1	X	X	28	26.9	138	60.3	†	30	14.0				
Hamilton	1,523	105.0	↓	78	10.7	↓	136	16.8	↓	407	29.3	↓	130	9.1	↓
Hancock	644	146.6	30	12.5	44	20.9	221	50.1	64	15.1					
Harrison	395	160.4	X	X	23	24.1	151	59.2	†	30	12.9				
Hendricks	1,100	132.2	↓	43	10.1	↓	99	23.1	366	44.2	↓	75	9.1	↓	
Henry	541	163.8	X	X	40	26.8	182	54.3	43	13.1					
Howard	913	165.3	†	42	14.3	73	27.5	288	51.0	74	13.0				
Huntington	343	149.1	20	16.6	29	26.7	104	44.4	21	9.4					
Jackson	499	187.1	†	30	21.8	†	34	28.4	175	65.2	†	37	13.6		
Jasper	341	164.9	X	X	28	30.1	107	50.2	26	12.7					
Jay	261	197.1	†	X	X	23	34.7	81	62.6	25	19.6	†			
Jefferson	368	177.5	†	X	X	23	23.3	143	67.7	†	35	17.5	†		
Jennings	288	172.5	X	X	X	X	123	70.6	†	21	12.2				
Johnson	1,137	138.2	↓	52	12.3	81	20.5	385	46.3	82	9.5	↓			
Knox	401	169.3	X	X	24	19.2	138	55.6	37	15.6					
Kosciusko	678	146.0	32	12.2	67	33.7	†	221	45.8	66	14.6				
LaGrange	254	130.1	↓	X	X	21	24.1	68	33.4	↓	X	X			
Lake	4,770	161.8	†	257	17.0	†	389	27.3	†	1,387	46.5	↓	426	14.3	†
LaPorte	1,165	164.9	†	56	15.0	68	22.2	366	51.3	90	12.6				
Lawrence	505	159.5	X	X	38	27.7	193	58.8	†	39	12.1				

\*Rates are per 100,000 people and age-adjusted to the 2000 US Standard Population

\*\*† ↓ symbols denote whether the county's rate is significantly different than the Indiana rate.

“X” Rate and comparison to state rate is suppressed if fewer than 20 deaths occurred because rate is considered unstable; counts <5 are suppressed to maintain confidentiality.



## RATES BY COUNTY CONT.

**TABLE 4. INDIANA CANCER MORTALITY (DEATH) RATES BY COUNTY, 2013–2017\*\* (CONTINUED)**

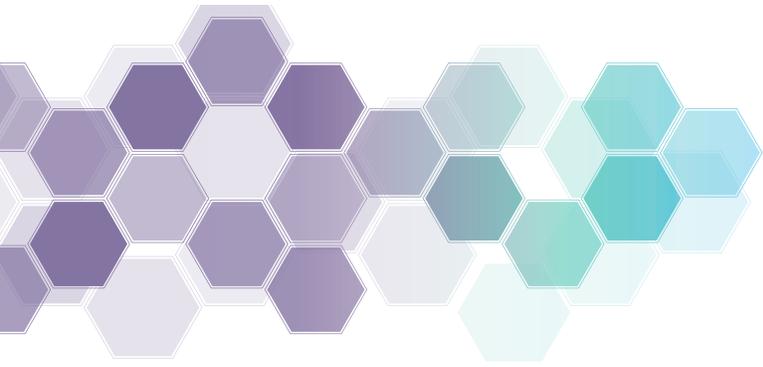
Source: Indiana State Cancer Registry

County	All Cancers		Prostate (Male-only disease)		Female Breast		Lung		Colon and Rectum	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Madison	1,412	169.1	60	13.3	97	26.0	508	60.0	97	11.6
Marion	7,761	165.1	425	18.5	590	25.0	2,536	54.5	539	11.7
Marshall	440	149.0	26	16.6	34	24.6	149	49.5	25	8.5
Martin	115	163.4	0	0.0	X	X	35	48.3	X	X
Miami	348	151.1	23	18.1	20	21.7	115	49.5	29	13.2
Monroe	924	138.3	49	14.0	85	28.3	275	40.7	70	10.5
Montgomery	369	145.9	20	14.2	26	23.4	125	48.9	29	10.9
Morgan	687	160.9	22	10.1	55	26.3	234	55.0	65	15.6
Newton	151	152.7	X	X	X	X	68	67.5	X	X
Noble	402	146.3	22	15.3	29	20.8	130	47.0	31	11.5
Ohio	72	158.3	X	X	X	X	27	56.8	X	X
Orange	253	186.6	X	X	22	35.6	76	54.1	23	19.3
Owen	242	165.2	X	X	X	X	95	62.1	23	15.1
Parke	144	121.6	X	X	X	X	54	46.2	X	X
Perry	209	161.6	X	X	X	X	64	49.4	X	X
Pike	139	157.9	X	X	X	X	53	54.6	X	X
Porter	1,494	149.7	77	14.5	126	27.0	466	45.2	125	12.6
Posey	257	152.7	21	22.2	X	X	91	53.9	X	X
Pulaski	143	161.1	X	X	X	X	49	55.4	X	X
Putnam	401	177.3	X	X	X	X	152	66.5	32	13.8
Randolph	283	159.0	X	X	26	30.1	93	50.6	X	X
Ripley	258	142.2	X	X	X	X	100	53.7	X	X
Rush	172	154.2	X	X	X	X	68	59.5	X	X
St. Joseph	2,408	155.2	144	18.0	192	25.0	723	46.2	199	12.9
Scott	293	185.0	X	X	X	X	109	69.6	20	14.4
Shelby	451	161.4	X	X	23	17.8	170	60.8	38	13.1
Spencer	194	137.3	X	X	X	X	68	48.0	X	X
Starke	293	185.0	X	X	X	X	127	79.2	23	14.4
Steuben	374	159.9	X	X	27	26.4	114	47.1	42	17.7
Sullivan	230	169.9	X	X	X	X	85	62.3	22	15.9
Switzerland	103	148.9	X	X	X	X	31	45.7	X	X
Tippecanoe	1,097	136.7	38	9.1	78	19.6	335	41.5	97	11.7
Tipton	163	151.6	X	X	X	X	57	52.4	X	X
Union	78	162.4	X	X	X	X	X	X	X	X
Vanderburgh	1,781	158.7	88	15.0	115	21.2	581	51.4	119	10.7
Vermillion	199	181.8	X	X	X	X	59	52.1	24	22.7
Vigo	1,022	163.4	42	13.1	80	27.5	363	56.9	85	13.6
Wabash	336	153.7	X	X	26	29.2	96	43.0	26	10.8
Warren	89	146.5	X	X	X	X	28	43.5	X	X
Warrick	522	135.9	34	16.1	49	27.7	167	41.3	37	10.3
Washington	289	168.2	X	X	X	X	114	62.2	X	X
Wayne	750	166.5	43	17.9	53	26.1	256	55.9	55	11.6
Wells	267	150.1	X	X	33	44.0	78	42.4	28	16.0
White	253	152.1	X	X	X	X	84	49.7	23	13.8
Whitley	286	131.6	X	X	X	X	102	47.6	25	11.8

\*Rates are per 100,000 people and age-adjusted to the 2000 US Standard Population

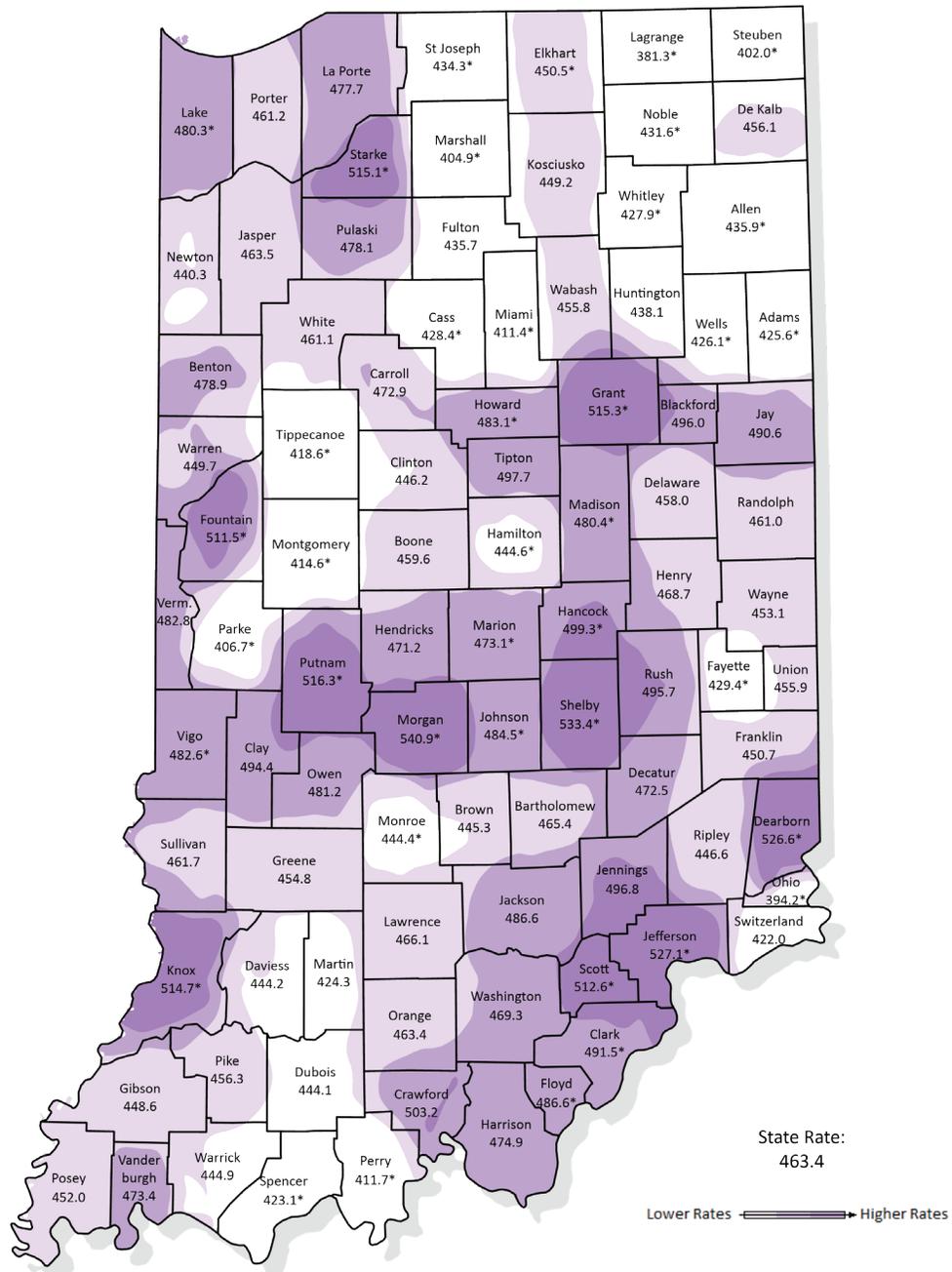
\*\*†‡ symbols denote whether the county's rate is significantly different than the Indiana rate.

“X” Rate and comparison to state rate is suppressed if fewer than 20 deaths occurred because rate is considered unstable; counts <5 are suppressed to maintain confidentiality.



# INCIDENCE RATE HEAT MAPS

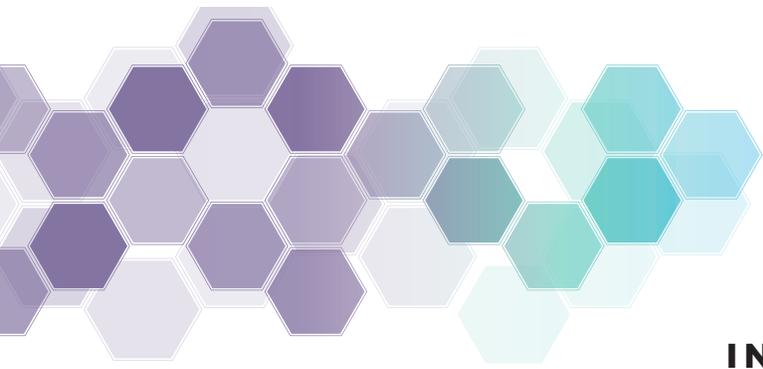
MAP 1. INCIDENCE RATES FOR ALL CANCERS COMBINED BY COUNTY - INDIANA, 2013-2017



\*Significantly different (higher or lower) than the state rate ( $P < .05$ )  
 Technical Note: This map presents age-adjusted county incidence rates using a smoothed interpolated surface and is intended to provide a generalized depiction of rate variability throughout the state.

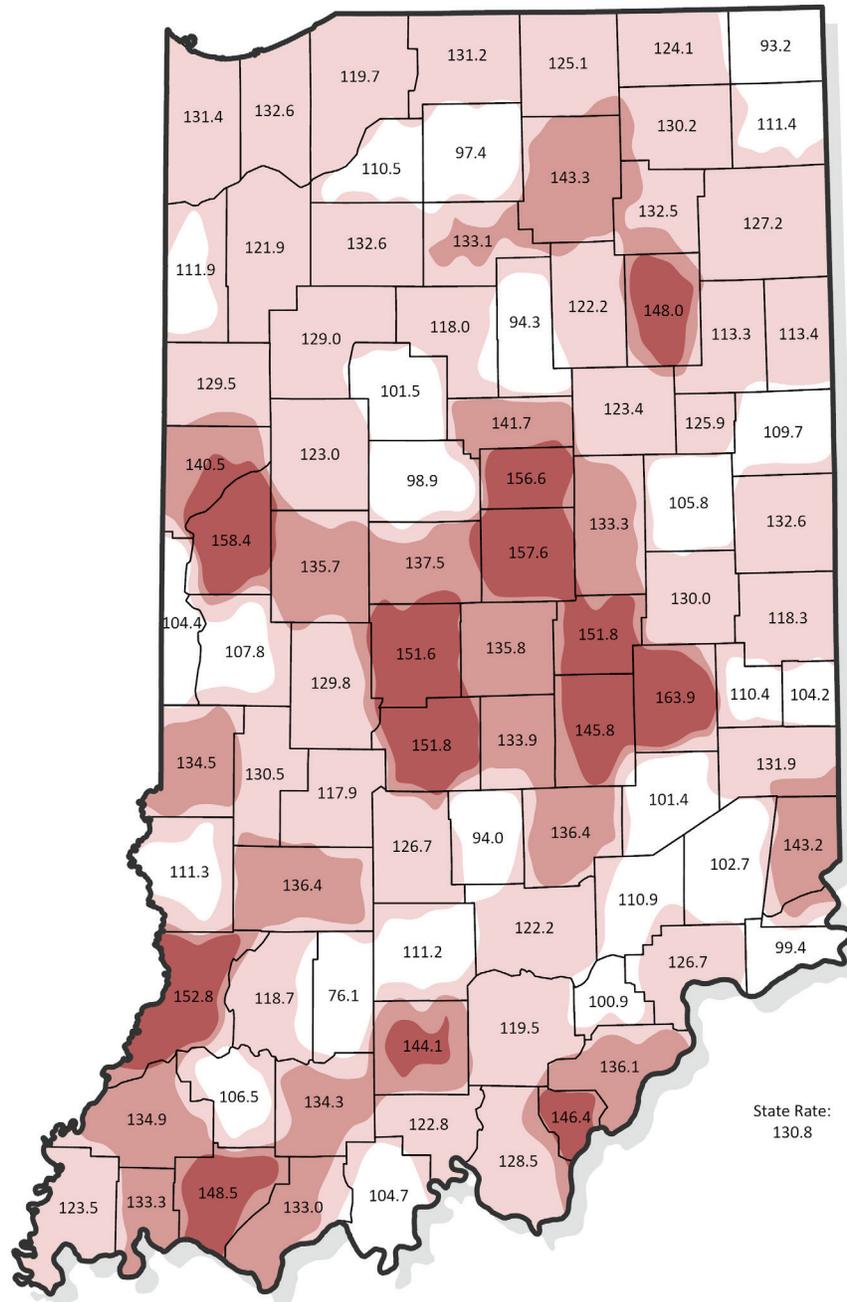
Source: Indiana State Cancer Registry



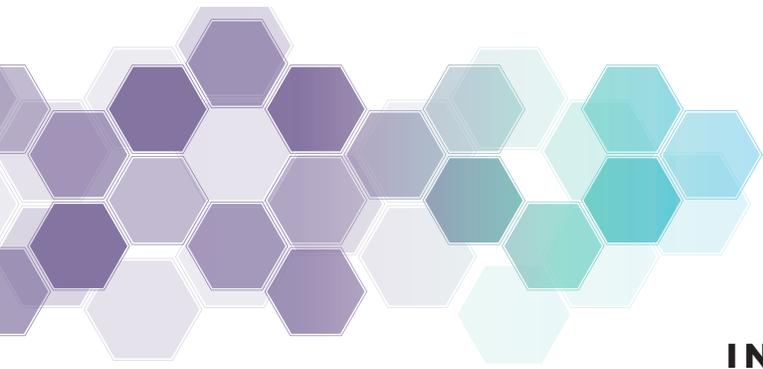


## INCIDENCE RATE HEAT MAPS CONT.

MAP 3. INCIDENCE RATES FOR BREAST CANCER BY COUNTY - INDIANA, 2013-2017

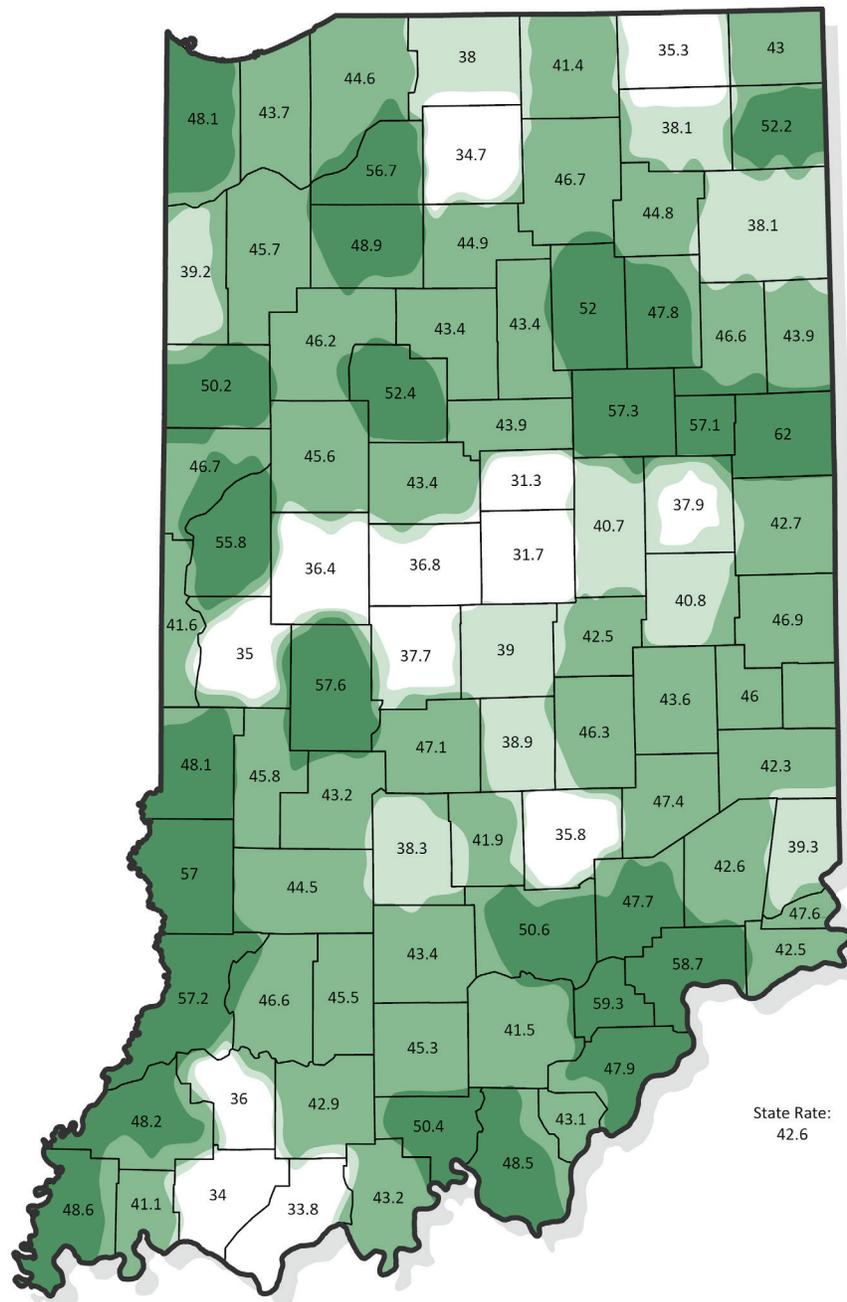


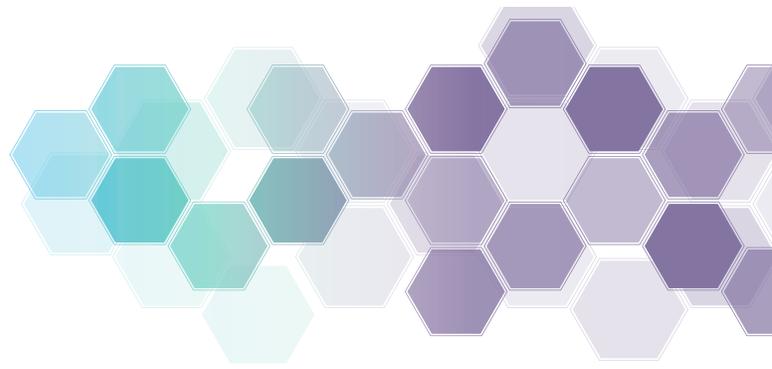




## INCIDENCE RATE HEAT MAPS CONT.

MAP 5. INCIDENCE RATES FOR COLON CANCER BY COUNTY - INDIANA, 2013-2017





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